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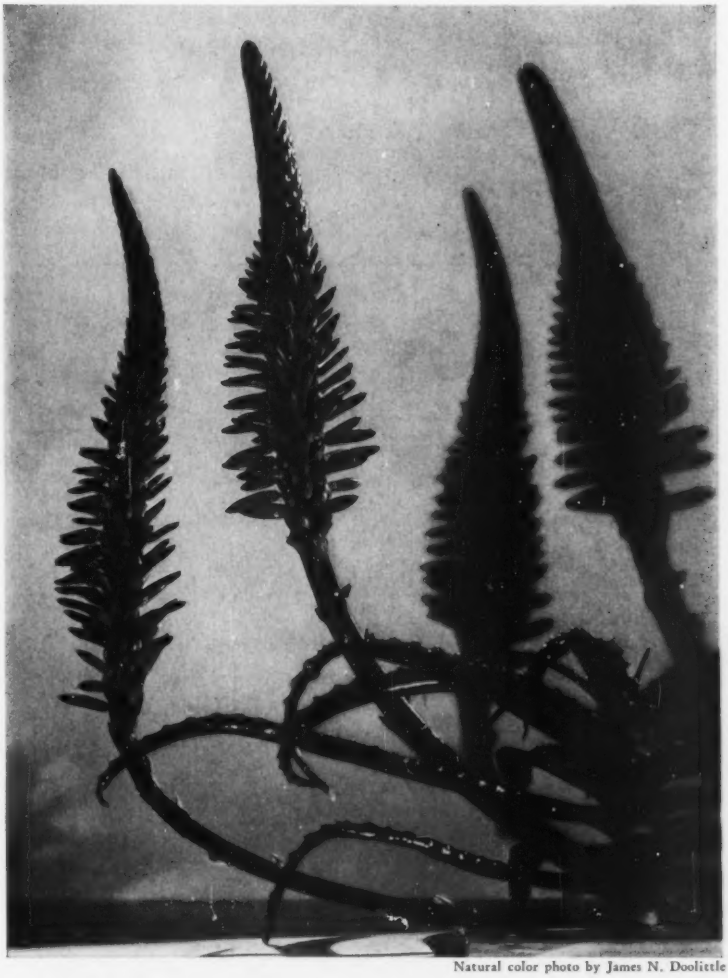
JOURNAL OF THE
CACTUS
AND
SUCCULENT SOCIETY
OF AMERICA

Vol. II MAY, 1931 No. 11



Natural color photo by James N. Doolittle

***Aloe arborescens* Mill. var. *natalensis* (Wood & Evans) Berger.**

See article by Eric Walther, page 467

Color plates by and courtesy of Adcraft, L. A.

Journal of the
CACTUS AND SUCCULENT SOCIETY OF AMERICA
Published by
THE CACTUS AND SUCCULENT SOCIETY OF AMERICA

A monthly magazine to promote the Society and devoted to Cacti and Succulents for the dissemination of knowledge and the recording of hitherto unpublished data in order that the culture and study of these particular plants may attain the popularity which is justly theirs. "The Cactaceae," by N. L. Britton and J. N. Rose, has been adopted by this Journal for purposes of identification. (Membership and subscription $3.00 per year, foreign $3.50.) Mail membership application and subscription to the Secretary, Mr. W. M. Ketteringham, 610 West 65th Street, Los Angeles, Calif.

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VOLUME II MAY, 1931 NUMBER 11

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Echinocereus davisii sp. nov.

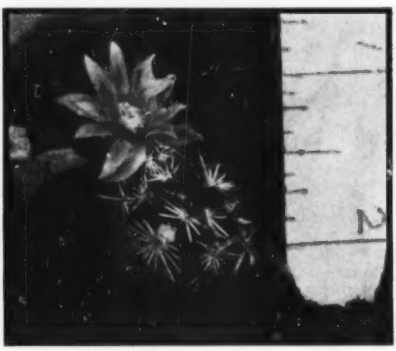
PLANTS: Very small, globular, never cylindric, 1 to 1.5 cm. high, simple, seldom or never cespitose; ribs 6 to 7, not very low; areoles slightly elongated; spines white, with brown tip, with no banding arrangement of alternate light and dark on body of plants; radial spines 9 to 12, recurved to slightly appressed; no central spine observed in 100 plants.

FLOWERS: Greenish amber, including ovary 2.5 cm. long; perianth segments slightly pointed; ovary covered with areoles clothed with 5 mm. long, white spines; fruit 10 mm. long; seeds 1 mm. long, black, deeply and symmetrically pitted with light brown at hilum.

TYPE LOCALITY: Four miles south of Marathon, Brewster County, Texas, at an elevation of 4,000 feet, on a limestone formation, hidden under moss.

DISTRIBUTION: Only found on one acre of ground, and can only be seen when its small flowers protrude through the moss.

TYPE: U. S. National Herbarium "Houghton 700"; Cotypes in herbarium of University of California and N. Y. Botanic Garden.



NOTE: This miniature gem is closely related to *E.viridiflorus;* the differences from which are sharp.

KEY

A. Plants up to 20 cm. high with 14 ribs . . . . . ***E.viridiflorus***
B. Plants up to 1 cm. high with 6 to 9 ribs . . . . . ***E.davisii***

Collected by A. R. Davis, Marathon, Texas, after whom it is named.

ARTHUR D. HOUGHTON.

Aloe arborescens var. natalensis

By Eric Walther

The third annual Cactus Show which is being held this month would seem to be an occasion most appropriately commemorated by the presentation of another colorplate. No apology is needed for our choice of subject, for even though this is perhaps the most commonly grown of the shrubby Aloes and is in no need of an introduction to most of our readers, its merits are sufficiently obvious to warrant our selection. Whoever has seen this in flower, in a location suitable for the full development of its flaming torches of blossoms, will admit that it has few rivals for attention during the winter months which are its normal flowering period. Witness the unforgettable blaze of scarlet kindled by this Aloe at the Huntington Botanic Gardens, where in season it literally sets afire an entire hillside.

Surely, from a garden standpoint, this Aloe is deserving of still wider appreciation, not only by reason of the welcome touch of color supplied by it at an otherwise dull time of the year, but also because of the patience with which it will endure neglect, readily surviving our long, dry summers without more than an occasional watering, as well as the readiness with which it may be increased by means of the numerous basal sprouts. Until roots are formed, freshly-taken cuttings usually assume in the sun a distinctive red coloration greatly adding to their attractiveness not at all unwelcome when used for the furnishing of the ever-popular Succulent-bowls. Where found in older plants, though, this color is only too often the unfailing symptom indicating the presence of Nematode.

In Europe, *Aloe arborescens* has been cultivated since pre-Linnean days; and locally it has been grown for so long that all records of both date and agent of introduction seem to have been lost.

Botanically, the subject of our color-plate is merely a variety of *Aloe arborescens* Mill., which species belongs into Salm-Dyck's group Arborescentes, a subdivision of the subsection Magnae, Section Eualoe. Of the group Arborescentes only one other species is sufficiently well known to require comparison. This is *Aloe pluridens* Haworth, known to us from the Huntington Botanic Garden, and differing from *A.arborescens* in its lax racemes and bright green, shining leaves with more numerous, crowded teeth. Our species should also be contrasted with *A.salmdyckiana* Schult., which may be distinguished by its constantly branched inflorescence, connate perianth-segments, exserted filaments and relatively simple stem. It is now known to be a hybrid between *A.ferox* and *A.arborescens*. *Aloe arborescens* itself seems to be rather variable; and as nearly all recorded forms have recently been introduced to local cultivation through the efforts of our Vice President E. O. Orpet, we take the liberty of submitting a translation of Berger's key to these varieties.

Before closing we wish to express the hope that in the not too distant future our Journal may be able to feature a colored supplement at intervals more frequent than a twelvemonth.

Section ***Eualoe:*** Ovary abruptly contracted into style; roots not swollen.

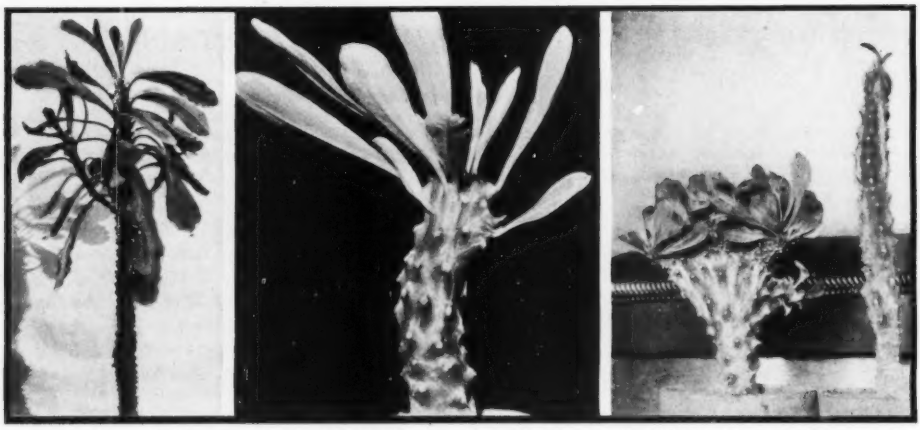
Subsection ***Magnae:*** Plants shrubby or tree-like, with stout stem; leaves ensiform, in dense rosettes; peduncles stout, simple or branched; bracts large; perianth cylindrical, rounded at base, never constricted above ovary; segments mostly free.

Group ***Arborescentes*** Salm-Dyck: Trunk not branching dichotomously; peduncle occasionally branched; racemes dense and showy; bracts short, not long-acuminate; perianth scarlet-red, with nearly free segments and included filaments.

***Aloe arborescens* Mill,** *Key to the varieties:*

A. Leaves glaucous or grayish.
  B. Racemes conic-cylindrical, 20 to 30 cm. long; perianth 38 to 45 mm. long; peduncle sparingly branched; leaves glaucous . . . *var.* ***natalensis*** **(Wood & Evans.) Berger**
  BB. Racemes ovate-cylindrical, 25 to 30 cm. long; perianth 50 mm. long; peduncle simple; leaves grayish . . . . . *var.* ***pachythyrsa*** **Berger.**
  BBB. Racemes cylindrical, 10 to 15 cm. long; perianth 40 mm. long; peduncle simple, short; leaves glaucous . . . . . *var.* ***frutescens*** **(Salm) Link**
AA. Leaves green.
  B. Tree-like, with tall trunk 3 to 4 meter high, simple; leaves long, channelled above; racemes simple or sparingly branched; perianth 43 mm. long . . . *var.* ***milleri*** **Berger.**
  BB. Tall shrubs.
    C. Leaves 60 to 65 cm. long, convex on both sides; peduncles branched; perianth 35 mm. long . . . . . *var.* ***ucriae*** **(Terrac. f.) Berger.**
    CC. Leaves 50 cm. long, flat; peduncles branched; perianth 40 mm. long . . . *var.* ***viridifolia*** **Berger.**

SEE PREMIUM LIST IN APRIL JOURNAL



Euphorbia neriifolia
Photo by Author

E.neriifolia, var. variegata
Photo by Otto H. Roller

E.neriifolia cristata and dormant stem
Photo by R. C. Pickering

Euphorbia neriifolia

By G. A. Frick

Euphorbia neriifolia Linn, is one of the subgeneric group of Grandifoliae, composed of three species, the other two are *E.nivulia* Ham, and *E.drupifera* Schumann. All are vigorous growers and have large succulent leaves and spine-set branches.

There are three varieties of *E.neriifolia;* one of them is the plant introduced by Haworth and named *E.neriifolia var. chinensis*. From the meager description available of this variety it seems to agree with *E.nivulia,* but that Haworth's plant occurred in China, and *E.nivulia* is native to India, is a problem unsolved.

The crested variety is known to most Euphorbia fanciers; one plant in the late Charles C. Abraham's collection in San Francisco seems to have furnished all the cuttings for the many splendid specimens of this variety in the United States today. No other source has been known to me until just a few months ago, when one of our members in Honolulu, Hawaii, announced that a large supply of the crested form of *E.neriifolia* was in the possession of a Japanese nurseryman in that city, who was selling at a very reasonable price. This would be very cheerful information were it not that the Hawaiian Islands are subject to importation quarantine regulations.

Another member of our Society living in Japan has recently introduced a variegated variety of *E.neriifolia,* the leaves and branches are marked with irregular straw colored lines that make it a very attractive and interesting study. The first plant of this variety introduced in the United States by Otto H. Roller of New Milford, New Jersey, is shown on this page, and has all the appearances of beginning to crest. Should it do so, this will be one of the outstanding Euphorbias in America. Plants of the variegated form in the writer's collection have reverted, due no doubt to my not having taken into account the biological characteristic of variegation, my mode of cultivation has furnished that indispensable pigment known to botanists as chlorophyll, which our Japanese member has so successfully denied the plant. Directions of just what his method of cultivation is, should be furnished with plants of this variety, but I suppose that it is one of the trade secrets that he considers nobody's business.

E.neriifolia is native to India; occurs quite plentifully in the vicinity of Bombay and in the Dekkan. It also is found in the East Indies where it was probably introduced from India to be used as hedges, for which purpose it is utilized wherever grown. In Bailey's Standard Cyclopedia of Horticulture is an illustration of a hedge fence in the West Indies showing how well this plant behaves under domestication and proves its desirability for this purpose; yet information comes

from Cuba that *E.neriifolia* has been banished there as a hedge plant, it having proven to be a weed protector, hard to clean around, to take too much space, and was a safe harbor for undesirable vermin of many different kinds.

Because of the close resemblance of this plant to a Cactus, this species is eagerly sought by collectors of Xerophytes, the large obovate-oblong light green leaves which are present only on the crown or apical part of the branches and stems very much resemble a tassel or plume. These drop off when the plant is badly wind whipped, or goes into dormancy—when it is advisable to withhold all water until leaves again show themselves in Spring. To many this will sound like harsh treatment, but it is 100% safe, the plant will not show any indications of contraction without the water; cuttings laid on a shelf in my garage for six months showed new growth, thus attracting my attention to them, and looked just as fresh as though they were rooted and growing in soil.

Dwellers in colder countries where growth must be made mainly in hot houses will find *E.neriifolia* completely eclipsing all precedent, doing far better under pot culture than growing in their native habitat; an accident to the heating system of the hothouse will mean nothing to the plant, for a drop in temperature to 22 degrees, even if sustained for a longer period than three hours, will do no greater damage to the plant than to cause the leaves to wilt, turn yellow, and drop from the stem.

E.neriifolia has never been known to flower in California either growing in the open or in pots; one plant in the writer's collection has stood in the one position, growing under a pepper tree for 28 years, and has never flowered, whether it's the influence of the greater root system of the pepper tree that is acting on the plant I can not say. Otherwise the plant seems happy.

DESCRIPTION—Arborescent or shrubby, height 6 to 7 feet, stem attaining 8 to 10 inches in diameter, obtusely five angled, later becoming round; the small mammiform podaria in rows, with short horny dark-colored divergent spines ¼ to ½ inch long in pairs; branches somewhat whorled, spreading, succulent, light green, later turning gray; leaves obovate-oblong, obtuse, succulent, 6 to 10 inches long, light green, with a prominent strong central nerve; flowers in June and July from the summit or point of union with the branch, small sessile cymes of greenish cyathia in the upper axils, seed not seen.

Photo by J. West

Flowering plant of
Rathbunia alamosensis (Coult.) Br. & R.

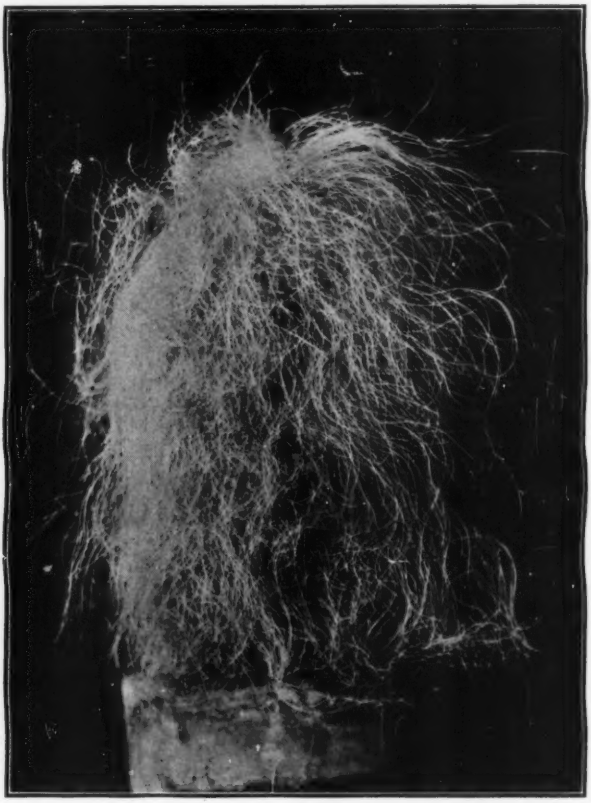
Rathbunia alamosensis (Coult.) Br. & R.

This fine cereus from Western Mexico is a rarity in our collections. It belongs to the small genus *Rathbunia* Br. & R. which is nearly related to *Machaerocereus* except for a naked ovary. The flowers are rather narrowly tubular, somewhat zygomorph, with exserted stamens and are day-flowering. Their color is a deep terracotta red. The stout spiny stems also become strikingly reddish in exposure. The plant in our photograph is one originally belonging to the famous Theodosia Shephard collection, now owned by our member, Mrs. Shephard Francis of Ventura. The native home of *R.alamosensis* is near Alamos, Sonora.

J. W.

Howard E. Gates of Anaheim, Calif., has returned from a three months' trip through Lower California, Mexico. He collected over sixty species of Cacti, about twenty Dudleyas, a dozen Agaves, two Stylophyllums, two Yuccas and several others. Many of these appear to be undescribed species. The JOURNAL has been promised photos and stories in the near future.

NOTE: Who will loan the Editor Vol. I of "The Cactaceae" to be used in reprinting?



One-half size

Courtesy J. H. Callander

Cephalocereus senilis

Cephalocereus senilis (Haworth) is very common on the limestone hills of eastern Hidalgo, Mexico, where it is the most conspicuous plant in the landscape and very large individual plants are common. They often attain a height of 25 feet. Unlike *Carnegiea gigantea* of Arizona, *Cephalocereus senilis* develops very little wood-tissue, and the largest plant can easily be cut down with an ax or even a pocket knife. Peons, employed to gather seed, know this only too well; instead of carrying a ladder with them for the purpose of reaching the seed pods, which grow on the apex of the plant only, they equip themselves with only an ax. Why burden oneself with a 20-foot ladder, when two whacks with an ax accomplish the same results?

One who has seen miles of *C.senilis* cut off just above the ground by these fellows, informs us that it was this vandalistic practice that brought about the enactment of the law prohibiting the exportation of cactus seed from Mexico.

Just what effect this will have on the supply of *C.senilis* seedlings can be seen. They are the best sellers in Europe and the United States and are considered a great curiosity, as even small seedlings are covered with long, white, silky hairs resembling the head and beard of an old man, hence the name "Old Man Cactus."

The photograph shown herewith is of a six-year-old seedling.

—G. A. Frick.

A New Species of Neomammillaria

By E. M. Baxter

This plant was found during a trip through Baja California early in 1930. As a side trip off of the main road we drove from Todos Santos east towards the mountains until the road ended at a deep, wide arroyo. There, by previous arrangement, we were met by the ranch foreman with horses and taken to the Rancho del Chino.

Photo by Baxter

Neomammillaria phitauiana Baxter *n.sp.*
A group of plants of the new species growing in their native habitat.

The trail followed the arroyo for a couple of miles and then began a switch-back over a ridge and into a side canyon towards the south. Just below the ranch the trail crossed to the north slope of the canyon and there I found this group of plants. There were about a dozen stems growing, close to the trunk of a tree, in leaf mold and decomposed granite. A few scattered specimens grew within a radius of fifty feet from the main cluster. I did not see any others either above or below this point, nor at any other place along the trail.

The slope of the mountain is quite steep at this place so that, with the heavy growth of trees all around, very little sunshine reached the plants. The soil was slightly damp, as might be expected under these conditions, although the nature of the granite kept it pretty well drained.

Growing nearby were several plants of *Opuntia gosseliniana*. They were in a location which received much more sunshine than fell on the *Neomammillaria*. Across the canyon towards the north, but on the southern slope and in full view of the sun, grew *Pachycereus pecten-aboriginum*.

The plants of the new species were mostly single. Some had two or three stems, branching from near the base. One plant shown in the photograph was beginning to divide at its tip.

Photo by Baxter

Neomammillaria phitauiana Baxter *n.sp.*
Flowering plant

In seedling plants up to probably a year of age, one of the central spines has a definite hook. Larger plants have all of their spines straight.

I have named the plant in honor of my Fraternity. Phi Kappa Tau has meant much to me, and with this opportunity of doing so, I dedicate

to old "Phi Tau" the honor that is mine to bestow.

***Neomammillaria phitauiana* Baxter**
new species

PLANT: Simple, occasionally branching near the base. Stems cylindrical, rounded at top; 1½ inch (4 cm.) in diameter and to 6 inches (15 cm.) tall; dull light green. Growing together in clusters of several plants.

ROOTS: Fibrous.

TUBERCLES: Not milky; bristly in axils, bristles about 20, ⅜ inch (5 mm.) long. Tubercles conical, ⅜ inch (5 mm.) in diameter at base, ¼ inch (4 to 6 mm.) high; arranged in 13 spiral rows, 1 cm. apart in mature growth; papillose; areoles not lanate or very sparingly lanate.

SPINES: Central spines 4, all straight, upper half brown, lower half white; ⅛ to ¼ inch (4 to 6 mm.) long, lower ones longer than upper; very slender, spreading. In yearling plants, one central spine hooked. Radial spines 24; white; all straight, ⅛ to ¾ inch (4 to 12 mm.) long, lower spines maximum, upper spines minimum length given; weak, almost bristles; spreading in a horizontal plane from tip of tubercles.

FLOWERS: Coming from top of previous season's growth in a circle around the plant; ½ inch (12 to 15 mm.) long; nearly campanulate, spreading at the tip. Outer perianth segments white with a red mid-rib that fades into the white to give a pink appearance from a distance. Inner perianth segments white, linear, acute.

FRUIT: Red; naked; globose to clavate; persistent, probably because of being held in by the radial spines; about ⅜ inch (1 cm.) long.

SEEDS: Black; pyriform; very small, less than 1-32 inch (.5 mm.) long.

DISTRIBUTION: Lower slope of the Sierra de la Laguna, near Todos Santos, Baja California, Mexico. Growing on the north slope of the mountain at an elevation of approximately 2000 feet (800 meters); in almost full shade of trees.

TYPE LOCALITY: Rancho del Chino in the mountains 30 miles east of Todos Santos.

TYPE SPECIMEN: No. 1,491,115, in the U. S. National Herbarium, Washington, D. C., collected by E. M. Baxter, April 5, 1930.

The new species fits perfectly into the key to the Mexican species of *Neomammillaria* given in Standley's "Trees and Shrubs of Mexico" (Page 979, Vol. 23, Part 4, Contributions from the U. S. National Herbarium—1924); which is taken largely from "The Cactaceae" by Britton and Rose.

It resembles *Neomammillaria slevenii* and *Neomammillaria palmeri,* found, respectively, on islands of the Gulf Coast and the Pacific Coast of Baja California. Being placed between these two it bridges the peninsula and offers a mainland form to complete the series.

It comes nearest *Neomammillaria albicans, N. slevinii,* and *N.palmeri,* but has longer and more slender spines than any of these, and the tubercles are much less congested. In addition *N.albicans* has densely lanate spine-areoles. *N.palmeri* has a preponderance of dark spines, and much larger seeds.

BOOK REVIEW

CURT BACKEBERG, KAKTEENJAGD ZWISCHEN TEXAS UND PATAGONIEN.

Brehm Verlag, Berlin 1930. 127 pp. Ill.

The Germans have always been in the front rank as botanical collectors in foreign lands. The author is one of the prominent younger members of this interesting profession, with several expeditions, particularly to some of the less explored regions of northern South America, to his credit. We owe this cactus-hunter both the discovery of new and the re-discovery of old species lost to cultivation; among them we may instance *Cephalocereus fricii, C.mortizianus* and *C.remolinensis.*

The present work is obviously intended for the general reader rather than for the specialist; the former will take pleasure in its poetical, not to say dithyrambic, style, its vivid descriptions of natural scenery and native life in Venezuela and Colombia, whereas the latter, while enjoying these, will often wish for more solid, if more prosaic fare in the way of information. But doubtless the non-cactaceous public might have found this indigestible.

But no one, whether man-in-the-street or cactus-lover, could fail to be enthralled by the truly excellent photographs illustrating the volume. These alone make it well worth owning. The work partly of the author, partly of others, they are selected with great discrimination and given their full due in the matter of reproduction. Some are of plants in their native habitat, others "posed," but all are interesting and of high quality.

The frontispiece, by the well-known collector A. V. Fric of Prague, a group of *Cephalocereus senilis* reaching up majestically into the sky, is magnificent. The photograph entitled *"Die Armee der Pasacana"* shows the astonishing density of stand of this *Trichocereus,* an army indeed, ascending the Andean slopes in close formation. A remarkable plate, credited to Alwin Berger, is that of a giant specimen of *Trichocereus terscheckii* in flower. The rare *Oreocereus trollii (irigoyenii)* is shown in the act of being dug up by a piratical-looking aborigine with a very American mattock. A fine posed portrait of *Cephalocereus houlletii* by Mrs. Errell is captioned *"Ein Pekineserhuendchen?"* and indeed the resemblance to a "peke" is not far-fetched. California is represented by a scene—presumably taken on the Coachella desert, and Arizona by *Carnegiea.*

That the reputation of Germany in the art of bookmaking is well-deserved, no one who examines this book will deny; typography, binding, half-tone work and paper are all irreproachable.

JAMES WEST.

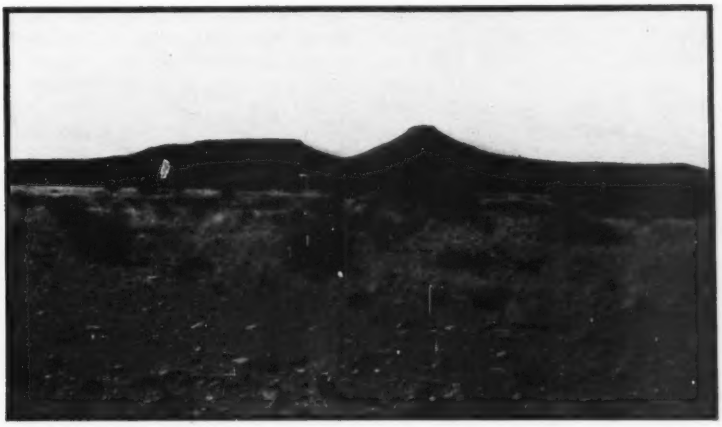


Photo by D.v.d. Bijl

South African Landscape

A Little Journey in South Africa

Made by Mrs. D.v.d. Bijl

A little while ago I was coming from the Great Karroo to Great Brak River, a distance of about one hundred forty miles, the first sixty miles by motor and then by train through very varied country. Where my journey began it is sixteen hundred feet above sea level and goes down in big terraces to the sea. Two mountain ranges are between the Karroo and the sea and the flora changes as one goes up and down.

Starting on the Karroo in the early morning takes one through brown veld, rocky and stony koppies with sparse vegetation, the quality of which is truly wonderful for though it looks as if not a single animal would keep alive on it, still has flocks of sheep fat enough to please any butcher. One skirts a big river, dry most of the time as South African rivers generally are, but having dense *Mimosa* forests on its banks. The Succulents hide under the bushes and are generally very difficult to find. Still one finds under a probably dead bush a wonderful clump of *Stapelias* or a very fine *Hoodia* and on the barest rocks fine clumps of *Haworthia viscosa* and *Apicra deltoides* in full bloom. The "Mesembs" one has always, everywhere, and the joy of them when in bloom! Miles of country covered with a white *Cryophytum* or a bushy Magenta Mesemb make a wonderful show in bloom. Now, however, there are no miles of flowers, only brown veld, still full of interest to those who look for it. Fossils of pre-historic animals are found in many places, also tree fossils in some parts.

A koppie (hill) covered with *Aloe straita* is passed and *Aloe schlechteri* is everywhere, sometimes covering a whole hillside and when in bloom these look like Men-of-war with the guns ready for action! A cliff with *Haemanthus* growing on the bare rock is close to the road and a giant plant of *Euphorbia ferox* just opposite and so on to the pretty little village of Prince Albert just below the great Swart-berg range of mountains. Just around Prince Albert is a great variety of succulents and the collector is in a field worth while. I should say it would be easy to collect a hundred or more different specimens, Mesembs, Euphorbias, Aloes, Haworthias, Stapelias, Cotyledons, Apicras, Crassulas, etc.

From Prince Albert the road begins to climb and soon one is in the grandest rock scenery in South Africa. Towering cliffs of red stone, peak after peak, rise to a height of about six thousand feet where the road crosses over into the Oudtshoorn district. Succulents have their home on the lower part and *Aloe ferox* lines the road tall and fine, also *Aloe mitriformis* on the slopes of the mountain, while higher up the vegetation changes to softer bush and bulbous plants—Heather, Reeds, Watsonias, and Blue Bells, one of our loveliest Gladiolus. Now also one begins to see Everlastings and Proteas with their soft red

SEE PREMIUM LIST IN APRIL JOURNAL

flowers. One like a pretty pink single rose is very beautiful. Still higher, ferns in the moist places. The view from the divide is grand, overlooking the twelve miles wide range of mountain peaks towards Prince Albert and the Great Karroo and on the other side the famous Cango Valley with its lands of various colors and in the distance another range of mountains, forming the Coastal Range.

The sun is now also making its appearance and tints every rock and bush with its glorious morning light. When one is lucky the Oudtshoorn Valley may be covered in dense fog and one looks down on a sea of cloud.

From the top the descent is very rapid and of course steep, with high cliffs on one side and always a steep falling away on the other side of the road, which has been built up in places one hundred feet or more. Now one is in the thick of the *Protea* belt and they are a wonderful sight when in blossom. Ferns too are more plentiful. *Watsonias* peep out here and there, brilliant scarlet. Again *Aloe ferox* are on some of the hills.

The Cango Valley is one continuous farm with farm houses every few miles and walnut trees giving them shade—a most prosperous looking place, with a plentiful supply of water, and the one place on the Karroo that never suffers from drought. Lower down one passes the farm on which is situated the Cango Caves. They are lit with electricity and every visitor to Oudtshoorn is taken to see its wonderful stalactites and stalagmites.

Now one sees bushes of Klapper-bos or *Nymania capensis* along the road and on the hillsides. *Portulacaria afra* is in full bloom. The flowers are tiny but their numbers cover the bushes till they look as if a pink mist covers them. Here again the succulents begin and all through the Oudtshoorn Valley, which is part of the Little Karroo, they hold their own. This district was famous for its ostriches in the days of the feather boa and is cut up into lucerne lands on which one used to see thousands of ostriches. Now the farmer has to find other uses for his lucerne.

At the town of Oudtshoorn the motor journey comes to an end and one joins the train. Oudtshoorn is quite large and has many beautiful gardens and just now the Jacaranda trees are in full bloom and wonderful sights of heavenly blue they are. The railway takes one past cliffs covered with Aloes and other Succulents—*Cotyledon cacalioides* with its canary color flowers until one feels the train really should stop and allow one to gather them! But no such luck. Where the train does stop there is generally nothing to collect! I saw one little wayside house on this line covered with the lovely night-flowering Cactus! One often sees Cacti grown in tins or gardens all over the country.

Continuing the journey, the railway begins to climb the Outeniqua Mountains which form part of the well known "Garden Route" of the South African Railways. On the lower slopes of the mountain giant Proteas were smiling at us in great profusion. Coming to the top of the mountain through a tunnel, one catches a

South African region — Drawn by James West

glimpse of the sea, away in the distance and nearby, at the foot of the mountains, the city of George.

The railway journey from the top of the mountain, Montague Pass, is a real joy to all lovers of Nature—the very varied vegetation, the Cliffs, the waterfalls, and the views as the train winds down the mountain—now a ravine thickly wooded with glimpses of ferns under the trees, as the train glides over the high embankments built over the culverts which let through the water coming from waterfalls higher up the mountain; then hillsides covered with softest pale pink Watsonias, here and there a giant Protea and all along the line hundreds of kinds of smaller flowers, bracken and tall grasses in endless variety. Scarlet Harveya's are out, too, now and a beautiful white Protea, the flower of which, seen off the plant, looks like a white Water Lily.

Lower down again are the many different *Papilionaceae* or Heurtjes trees covered with soft pink flowers or a very graceful tree with pale blue flowers—then there are hills covered with bracken after last year's fires, until one gets into the Government plantations carpeted with Arums and small ferns. Then comes George, a pretty old-world town, and from there the railway goes along flats about two hundred feet above the sea and here are bulbs, Orchids, Ericas and Heathers in great variety until the sea level is reached at Great Brak River. Now Aloes make their appearance again and some of the hillsides are covered with them, making a fine show in their flowering season, with their masses of scarlet and orange.

Even near the sea, as it is here, Succulents abound, Euphorbias, Haworthias, Gasterias, Cotyledons, Crassulas and of course Mesembs, as well as bulbs of all sorts, Pelargoniums, and Ivy Geraniums covering the bushes. Many Mesembs are found nearly on the high water mark and some of the Crassulas take on a brilliant red or brick color.

Crassula expansa covers the ground near the sea, a tiny red flat-on-the-ground plant. The ravines nearby are covered with virgin forest trees and under them one finds orchids and ferns and a tall Aloe may stick out and form a splash of color when in flower, against the otherwise dark green trees.

And so a very delightful journey comes to an end. One never can see it too often. There are always new flowers to be seen, for they are as varied as the seasons.

Embargo on Euphorbia obesa

By G. A. Frick

A startling piece of news comes from South Africa in the announcement that the enactment of a new law placing a complete embargo on *Euphorbia obesa* has been passed. The decree makes itself plainly understood that not one plant is to leave Cape Province. Dealers there will no doubt look upon this as harsh treatment, but it is not; in fact it is the best and most needed act for conservation that has ever come to my notice.

Now that this source of income is cut off from the dealers, they will no doubt commence setting traps for catching the seeds, and we, in the rest of the world, will have the opportunity, for the first time, to purchase seeds of this species in quantity. The incentive for this has already occurred, as European seed dealers have raised the price from 50c to $2.00 each, and six months old seedlings jumped from $2.50 to $10.00 each, which is altogether too high.

E. obesa is a prolific plant if treated right, two female plants in the writer's collection have produced 36 seeds in 1929 and 150 in 1930. Of these, 95% germinated, and the 1929 seedlings today are the size of a 50c piece. Growth in a hot house is fairly rapid.

N. E. Brown, describing *E. obesa,* made the prediction that it would soon become rare or extinct if the rate of collecting for export and sale continued, and from information received by the writer from a field collector in South Africa, the vanishing point is not far off. Therefore this ruling by the South African government should be received with applause and approval, and my hope is that it remain permanent.

SEE PREMIUM LIST IN APRIL JOURNAL

The Fruiting of Cactaceous Plants

Here, in the West Indian Island of Trinidad, and the smaller islands attached thereto, the fruiting of some of the species makes it a difficult problem to solve. Sometimes the crop is an entire failure due, at present, to unknown causes. At other times ripe fruit appears in abundance and is devoured by birds, etc., in the day, while at night-time, night birds and bats prey upon each fruit as soon as it shows a tinge of coloring in matured condition. These drawbacks worry a collector to breaking point on many occasions, especially when orders are awaiting fulfillment. I am afraid that the north country buyer hardly realizes the difficulties one is up against in these tropical islands where cactus seed are gathered.

W. E. Broadway.

Editor's Note: Mr. Broadway of Woodbrook, Port of Spain, Trinidad, B. W. I., is an enthusiastic contributor to the Journal, and by the above note we realize that he is conscientious in supplying seeds and plants to the trade. Let us be more lenient with our foreign friends as they endeavor to supply us with our ever increasing demand for "more cactus."

BOOK REVIEW

THE CACTUS BOOK—By Dr. Arthur D. Houghton—147 pages, 5x8, cloth, The MacMillan Company, $2.25.

Dr. A. D. Houghton, first president of the Cactus and Succulent Society of America, is to be congratulated upon the enthusiastic appreciation met by his first book written for cactus enthusiasts. The author's interest in cactus was first expressed by making an extensive collection which ranks as one of the foremost with its many rare plants. His enthusiasm in this interesting phase of horticulture has accomplished his aim in the "dissemination of knowledge" which is so ably recorded in this helpful book. Under Dr. Houghton's able leadership The Cactus Journal was started, and without his guidance it might never have circled the world as it has today.

Realizing the need of a book on cacti, the author endeavored to give us a readable review of the subject and, as expressed in his own words, "One of my reasons for presenting this little book is that it may encourage the making of collections by amateurs so that more material may be available by the trained taxonomists for the publication of newer and fuller works on the subject."

No other cactus book, except Britton and Rose monumental "The Cactaceae," has received such well earned praise, since this is the first that is available written in the English language.

The "Introduction" and "Division of the Family" is a clear and readable survey of the entire field. One of the many letters to the Editor says, "Having suddenly entered this fascinating study of cactus, I found myself confused and it was not until I read 'The Cactus Book' that the plan seemed to simplify itself. It is such understandable literature that encourages us to take up this interesting work."

Seed-Raising, Hybridization, Propagation by Seed and Cuttings, Grafts, Cristates, Care of Cacti, Collecting, Rock-Gardening, Indoor Culture and Cataloguing are all treated in a readable manner. The "Conspectus of Species" containing approximately 1,000 varieties, is listed in a unique and helpful manner being arranged in the probable order of evolutionary relationship. This list also shows whether or not each variety is suited to out-door or indoor culture, the native habitat of the plant, the amount of sun or shade required, the most desirable soil, moisture requirements, hardiness, habit of growth and color of flower. These 30 pages of valuable information will be found most helpful to any student.

The book is surprisingly free from errors and the few that do occur are so secondary, when compared with the true value of the book, that they are negligible. Dr. Houghton did a difficult job, well indeed, and we admire any man who makes an effort in a field where few dare to tread. His next book, written from a more scientific and professional standpoint, will be as gladly received.

Scott E. Haselton,
Editor The Cactus Journal.

Kalanchoe braziliensis Pt. Hil.

This succulent plant does well with us in Trinidad and Tobago. I have had it continuously, as a garden plant, for the past 22 years. It propagates itself freely from stem and sucker growths.

The time of blossoming is during the Dry Season, which begins as a rule, with the New Year and ends about the middle of April. But I have known exceptions where the season has run on till the month of July. That, then, becomes serious to our tropical gardening efforts.

The *Kalanchoe* referred to has blooms of orange-yellow produced on upright many-branched stems, covered with glandular-like hairs, lasting in a fresh condition for several days, or sometimes weeks, at a time. Each of the four petals terminates in a point, and its tube is quite hairy.

Well worth growing for cut-flower purposes.

W. E. Broadway, Trinidad, B. W I.

SECRETARY'S NOTES

Through the courtesy of Mr. William Hertrich a visit to the Huntington Botanical Gardens has been arranged for Sunday afternoon, May 17th. This will take the place of the regular monthly meeting.

Members and their friends will be admitted upon the presentation of the membership card to the Secretary at the entrance to the garden on this date only.

It is understood that the membership cards will admit members to the Garden only, and will not permit admittance to the Art Gallery or Library. Visitors desiring admittance to these buildings should make application to the Huntington Library and Art Gallery, San Marino, California.

The garden of Mrs. King C. Gillette at Palm Springs was thoroughly enjoyed by the faithful few who made the annual pilgrimage on Sunday, April 26th.

The time for the Third Annual Show is about here. If you are planning to exhibit please send in your entry forms immediately. Tickets to the show may be obtained by addressing the Secretary at 610 West 65th Street, Los Angeles. Adult tickets are 50 cents; children 25 cents. Please remit when writing for tickets.

Our Coming Cactus Show

By Ned Lawrence

At last the spiny cactus has come into its own.

For centuries regarded as the ugliest, unworthiest and most despicable of plants, a veritable Pariah of the plains and a pest to the pioneer, this outcast has been reclaimed and restored to popular favor, and now becomes social pet and parlor ornament.

This metamorphosis is a matter of recent date. It occurred within sight of all of us. Instead of the hands of men being lifted against the Cactus to its extirpation and extinction, the hands of delicate women are extended to welcome it to posts of state in private gardens. Deliberate and collaborate action is taken by public administrators to secure the conservation of forms of plant-life which have no utility of consequence and are valued merely because of their oddity of shapes and exquisite floral beauty.

In Los Angeles and other cities of the Southwest today may be found hundreds of private collections of Cacti and Succulents, whereas 25 years ago anyone who voluntarily kept a Cactus plant in his garden was looked upon as one who should be examined for detention in the psychopathic ward.

Nor is this burgeoning of favor confined to residents of the Western cities. Throughout the East so urgent is the demand manifest that commercial nurserymen are overwhelmed with orders, and for some time have been buying Cactus and Succulents here in carload lots for shipment and distribution throughout the land.

Almost every householder who possesses a garden has disposed some form of xerophytes therein. And those who dwell in rented apartments fail not to put out some pretty potted pets in their window-boxes.

Even the five and ten-cent stores offer bargains in cactus by the wagonload.

The great state of Texas has put out a book setting forth the names and descriptions of the varieties to be found in that wide area. Santa Barbara also has its book.

Wherever flower shows are thrown open to the public, you may find crowds surrounding the exhibits of Cacti and Succulents, more keenly interested than in any other group of flora.

And so we predict for the third annual Cactus Show to be given by the Cactus and Succulent Society of America at Edward H. Rust's nurseries at 352 E. Glen Arm Street, Pasadena, on May 22, 23 and 24, a success commensurate with public interest.

Let every one of the Society members to whom these words may come, regard it as not only a privilege but a duty to undertake his or her part to round out and perfect this success. First by making exhibits—it matters not whether one plant or many; or whether common or uncommon, so that they are in excellent condition—and second by communicating to those who are not members of the society, the welcome knowledge that they too are eligible to exhibit with us, and for their entry no fee is charged.

We want this show to be the biggest and best of the series, that we may prove progress, and promote our society.

It will be an honor to win a prize at this Cactus Show, and provision is made that the list of prizes shall compass the whole field of Cactus and Succulents, and give every one a chance to compete .

The prize-list was published in the April number of the Journal. It is too lengthy to be printed here again.

In Memoriam

Since the above article was written, this brilliant man and cactus collector has passed on. Struggling under a physical handicap for many years Edwin W. R. Lawrence fought a brave fight and the cactus world will grieve the loss of its devoted friend. Yet, who cannot say that "Ned," as everyone called him, made a winning fight.

Always a friend to humanity, in his forty years of writing, he fearlessly expressed his views as he endeavored to make this world of ours a little better and a little happier place in which to live. The great devotion for his family was no less, because of his love for his thorny friendly plants, which brought him new courage and strength and happiness. Ned's unselfish example will forever be associated with his memory.

As one of the organizers of The Cactus Society, his kindly guidance of The Journal, and his fairness as one of the Board, the vacancy will be difficult to fill. It is for us to carry on in this work which Ned willingly shared so devotedly.

The Society and The Journal offers its condolence to his family. Words can never express the sincerity that is shared by its thousand members, yet time will prove that even cactus folk do not forget. The happy memory of Ned Lawrence will live forever in the hearts of his cactus friends.

Scott E. Haselton.

SEE PREMIUM LIST IN APRIL JOURNAL

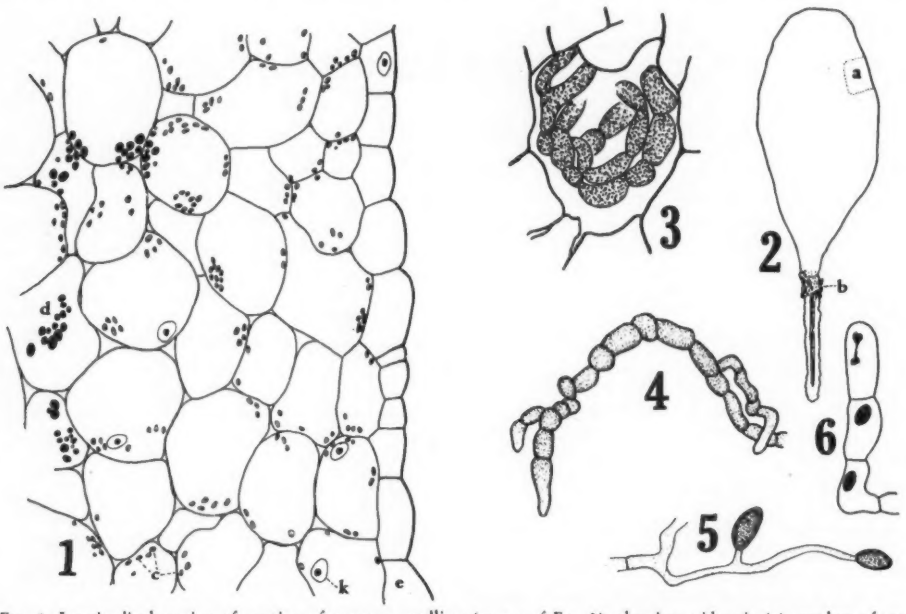


FIG. 1. Longitudinal section of portion of a young seedling (part *a* of FIG. 2), showing epidermis (*e*), nucleus of one cell (*k*), chloroplasts (*c*), which give the green color to living plants, and coagulated drops of mucilage (*d*). x 475. FIG. 2. Median longitudinal section of a four-weeks-old seedling of *Neomammillaria parkinsonii*, showing the mycorrhizal infection at *b*. x 12. FIG. 3. Filaments in an internal cavity of the mycorrhiza. x 475. FIG. 4. Filaments growing over external surface of root of cactus. x 475. FIG. 5. Filament (growing outward from the hyphae shown in FIG. 4) bearing two spores. x 475. FIG. 6. Showing division in an apical cell of external filament. x 1250.

Endotrophic Mycorrhiza in Cacti

DR. DONALD A. JOHANSEN

In many of the cacti, in genera such as Neomammillaria, Anhalonium and several others, it is extremely difficult for the cytologist to obtain material suitable for investigation. The root tips, the classical material, are difficult to obtain and are almost always found to be worthless. Very young buds are the next most favorable material, but in genera similar to those just mentioned the buds are visible and nearly open before one is aware that the plants are going to bloom. At this time the buds are too old to be of any use, for the pollen grains are then mature. The writer then thought of working with very young seedlings, to see if it were not possible to find and count the chromosomes in this type of material.

With this idea in mind, seeds of several species of Neomammillaria and Coryphanta were procured from Mr. F. Schmoll, of Cadereyta, Mexico, in the spring of 1929 and germinated. Some seeds of several species of Neomammillaria collected by Mr. E. M. Baxter and the writer in Baja California, were also employed. Germination followed quickly, the soil used being an unsterilized sandy loam. The seedlings were killed and fixed at various stages by appropriate cytological methods. Because of the pressure of other duties, the slides on which this paper is based were prepared by one of my students, Mr. Henry E. Wieser, to whom I am much indebted.

The seedlings unfortunately turned out to be no better than any of the other materials tried. FIG. 2 gives an outline of a median longitudinal section of a young seedling of *Neomammillaria parkinsonii*. It was only with the greatest difficulty that the cotyledons could be identified; in fact, in some of the species of Coryphanta and Neomammillaria these seedling structures are almost totally absent. FIG. 1 shows, much enlarged, the portion of FIG. 2 at *a*. We can thus see that the cells are very large, have thin walls and contain extremely scanty cytoplasm, which is not shown in the drawing. The nuclei (*k*) are so tiny and inconspicuous and contain so little chromatin that they are hard to identify, even under the high powers of the microscope. None of the nuclei in the entire seedling was dividing.

At this time the seedlings have not yet developed the characteristic very much thickened epidermis (*e*) found in older plants. These seedlings, of course, still had the primary rootlet attached. The apical portion of the root tip, where chromosome counts are usually made, was of extremely slight extent and no division figures could be found. The whole plant was therefore a complete disappointment from the cytological standpoint.

However, one most interesting thing was revealed by the examination of these seedlings. Immediately below where the root joins the plant body, at the point *b* of FIG. 2, the hyphae of a fungus were noticed, both on the surface of the root and penetrating into the latter. Further study demonstrated the presence of what is technically known as an endotrophic mycorrhiza. This refers to the internal infection of a root by a fungus, generally accompanied by the formation of a swollen body. The writer was not aware that mycorrhiza had previously been reported for the Cactaceae, although seedlings have very often been studied, and a rapid survey of the literature has failed to reveal any references.

In 1898, Dr. Ganong published a full and well illustrated account of the general morphology of cacti seedlings and in 1910 Miss de Fraine investigated the internal anatomy of 47 species, using microscopical preparations. Both papers are published in the Annals of Botany for the years indicated. Neither author mentions observing mycorrhiza.

We have often read about the dependence of Orchids upon mycorrhiza, especially during the germination of the seeds. Mycorrhiza are present in the Heathers, in the Bird's-Nest Fern, on the roots of many trees and in many other plants, especially those growing in woods or on peaty soils. Biologists do not yet completely understand the role of the fungus in the economy of the plant affected, this being due mainly to the great difficulty of isolating and studying the fungus which forms the mycorrhiza and in deciding whether the relationship to the host is symbiontic or parasitic. Certainly the fungus is of great benefit to the orchid plant, since the latter cannot succeed in the struggle for existence and in the perpetuation of its kind without the help of the fungus; in this case the two organisms live together symbiontically. The writer is decidedly of the opinion that the mycorrhizas of the Neomammillarias are of great help to the young plants, making up in part for the absence of root-hairs, which were not found on any of the seedlings studied.

Let us proceed to find out what the fungus is like. The hyphae of the external mycelium (which can often be seen as a whitish, cobwebby mass on living roots) are smaller than those of the internal mycelium. As shown in FIG. 4, the threads are composed of rows of irregularly rounded cells with very thick walls and coarsely granular contents. A few short branches are given off. Increase in the number of cells seems to occur mostly in the apical cell of each filament or branch; the division of the nucleus preparatory to division of the cell is shown in FIG. 6. Four rounded bodies similar to chromosomes were counted at each end, but I do not know whether the number represents the haploid or the diploid set of chromosomes. From a thick mass of these hyphae, thin-walled, short-branching filaments project outward, FIG. 5, and each branch bears one or two spores. These spores upon germination develop new hyphae, thus giving rise to new infections; they can probably remain dormant for a long time, and are the means of transmission of the fungus from one plant to another.

The hyphae on the outside penetrate the root by forcing their way between the cells and when pretty deeply in, form a cavity and proceed to grow more or less at the expense of the host. The cells of the internal hyphae are larger than the external, have thinner walls, less granular contents and branch but little. FIG. 3 shows a section of a cavity with three pieces of hyphae. The part of the fungus residing within the host probably performs the metabolic processes necessary for its growth, while the outer portions are principally for absorbing dissolved nutrients from the soil and for purposes of reproduction.

Exactly what the fungus gives the cactus plant in return for "board and room," I am not sure, but feel safe in stating that the cactus certainly benefits from the arrangement, as is shown by the results of the following experiment. Two pots were prepared. One contained ordinary garden loam with the addition of sand and leaf-mold. The other pot was filled with essentially the same mixture, but pot and soil together were subjected to sterilization in an autoclave at 15 lbs. pressure for about twenty minutes. In the first pot the seeds were planted without any previous sterilization, but those planted in the sterilized pot were carefully subjected to chemical treatment to remove as much as possible any danger that spores might be lodged on the seed-coat. The seeds, of a species of Neomammillaria, came from the same fruit, so the seeds in each pot had an equal start, and germinated at the same time. The sterilized pot was protected from contamination from the air and the seedlings were watered with sterile water only, while those in

the other pot were watered with tap water which was anything but sterile. When the seedlings from both pots were examined microscopically, only those in the unsterilized pot were found to have developed mycorrhiza. When a year old, the seedlings were transplanted into the same flat, containing unsterilized garden loam. The present condition of the seedlings, two years after the commencement of the experiment, is the best proof that the fungus renders a distinct service to the cactus plant: the seedlings from the untreated pot average two inches in height and are of a healthy dark green color, while not one of those from the sterilized pot is over three-fourths of an inch high and all are of a pale light green color.

I have no idea how widespread mycorrhiza may exist among the Cactaceae; the observations have been confined to species of Coryphanta, Neomammillaria and Gymnocalycium, as these were the only ones of which I have been able to procure seeds for germination studies.

The spores of mycorrhizal fungi can hardly be expected to survive hot summers in desert sands, hence we may find therein one explanation of the terrific mortality of cactus seedlings in nature.

Echinofossulocactus

Plants in the Garden of Mrs. Wright, Santa Barbara

By G. A. FRICK

The genus *Echinofossulocactus* was established by George Lawrence, a gardener for the Rev. Theodore Williams at Hendon Vicarage, Middlesex, England, about the year 1840 and was first described by Mr. Lawrence in the London Garden Magazine in 1841, where he numbered 35 species and varieties, most of which are named and briefly described. The genus, as he defines it, is not a very natural one. He arranges the species in three sections and each section is divided into two subsections. The first section, GLADIATORES, corresponds to Schumann's subgenus STENOCACTUS of the genus *Echinocactus* which today is treated as *Echinofossulocactus* as we know the group.

The species belonging to his second section LATISPINEAE, and his third section are referred to as synonyms today.

Britton and Rose, in the "Cactaceae," recognize about 22 species all native of Mexico, but agree that the number of species must be larger than those they list.

Plants of this genus can readily be recognized, as the many ribs make them distinct; many collectors know this group as the Multicostatus family, which in Latin means "many ribs."

One statement in the "Cactaceae" that "they do not do well in cultivation" is erroneous as far as Southern California is concerned. Plants growing in the Huntington Botanic Gardens out doors for many years, look as healthy as those growing in their native habitat, also pot-grown plants in the writer's collection have done very well over a period of four years.

The photographs presented herewith were all taken by John D. Wright January 25, 1931, of plants growing out of doors in the Wright collection at Santa Barbara, California. The labels are 2½x1¼ inches, which gives a scale to determine the actual size of the plants. These plants all flowered in the latter part of January.

(1) *E.multicostatus* (Hildmann): Globose, but sometimes depressed; 100 ribs or more, very thin even at the base, each bearing only two areoles; color of flower pale pink with a dark bar down center of each petal.

(2) *E.multicostatus* var. *coahuilensis* similar to *E. multicostatus*, but has a greater number of ribs and a somewhat longer flower, growing in space cramped by heavy spines.

(3) *E.lamellosus* (Dietrich), has about 30 ribs, strongly flattened with velvet coating when young; spines white; flowers yellow.

(4) *E.arrigens* (Link): This species furnishes the wildest variance from others of this interesting genus, in that it has the least number of ribs (24) and a denser growth of spines, thus affording greater protection to the main body of the plant; its flower has a purple stripe running down the center of the perianth-segments and a white margin.

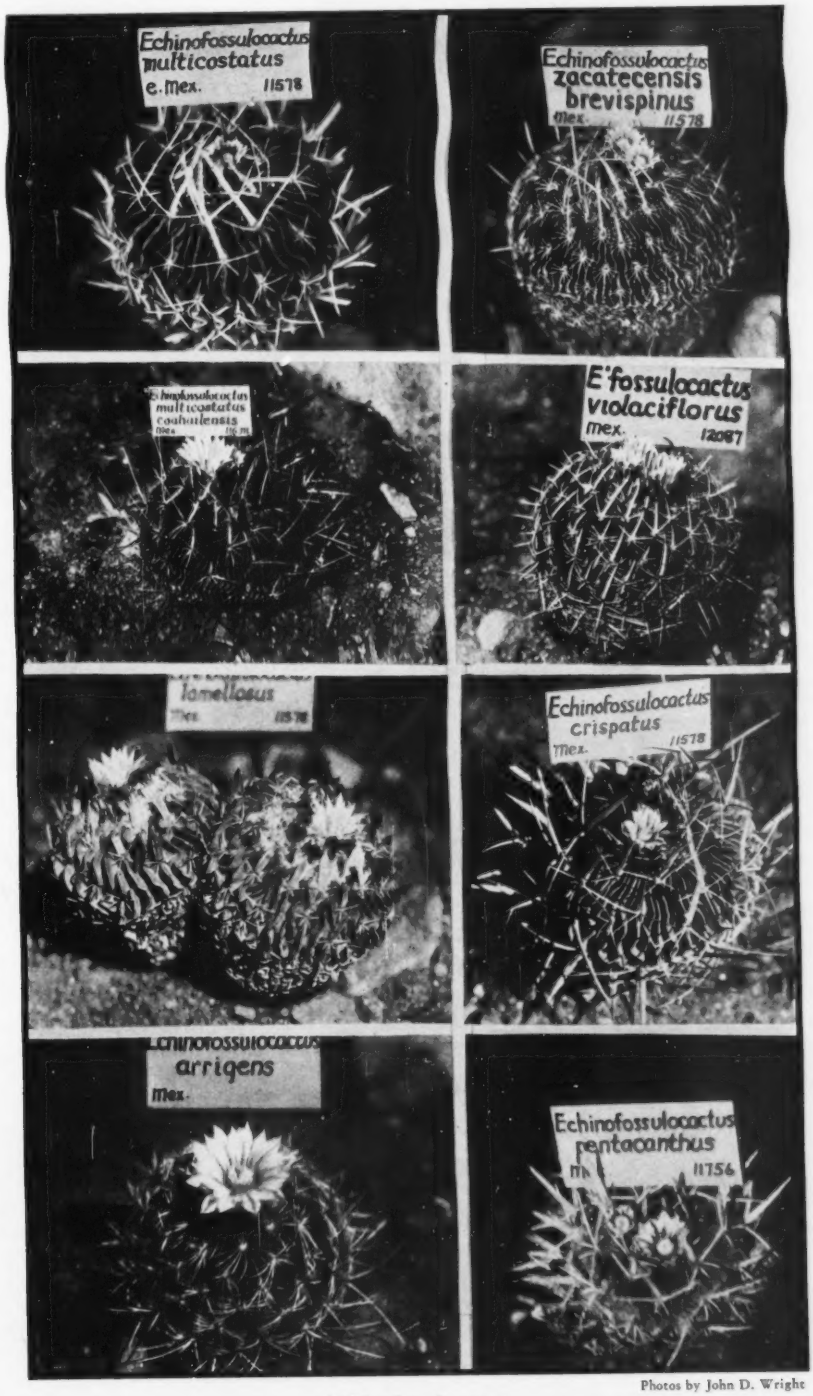
(5) *E.zacatecensis* is perhaps nearest to *E.multicostatus*, but has only 55 ribs; flowers nearly white, yellow center, striped petals.

(6) *E.violaciflorus* (Quehl); perianth-segments are white with a violet or purplish stripe down the middle from which it derives its name, and is a consistent bloomer. Plants of this species, growing in the Boyce-Thompson Herbarium at Superior, Arizona, have done remarkably well, out doors where snow falls and the thermometer drops to the freezing point in the winter.

(7) *E.crispatus* is the most common of the group to be found in the collections of the United States. They are fairly hardy and somewhat prolific; make splendid clusters, and cuttings root readily; easiest acquisition towards a collection of this group.

(8) *E.pentacanthus* (Lemaire): Accompanying this article is the first photograph shown of this species in recent years. The "Cactaceae" shows none and the description therein was taken from Lemaire's plate, no plant being available at the time. This flower (¾ of an inch across), is almost white with brown stripes down the center of each petal. There appears to be a certain amount of confusion, it being frequently mistaken for *E.obvallatus*, a species, judging from the illustration, very near it.

EDITOR'S NOTE: Photographs of the rest of this genus would be appreciated. Kindly communicate with Scott Haselton, 2436 Graciosa Drive, Hollywood, Calif.



Photos by John D. Wright

Echinofossulocactus

THE PRESIDENT'S MESSAGE

Third Annual Cactus and Succulent Show

By Boyd L. Sloane

Perhaps it's age creeping on, but no period of time has ever seemed so short to me as that which has intervened since the Show of 1930.

The standard set at that time is so high that in some respects we cannot hope to reach it for some time. In size, that show will be difficult to surpass. Our aim this year is a smaller show of the highest quality.

Sometimes we are asked why we have shows. A four-fold answer can be given: education, entertainment, extension of the Society membership, and financial return.

Let us discuss the last named first. Our Society is not yet three years old. It has no income except that which is received from the membership dues. This carries the organization but allows for no surplus. Any Society which does not provide for a reserve fund is not building on solid ground. And so to pay the necessary expenses of the show and, perhaps, to secure something for a reserve fund is why the financial item is included.

By means of this exhibit we hope to interest visitors, who are non-members in the Society and its aims and thus extend our membership.

No explanation should be necessary as to the educational and entertainment values. They are self-evident.

This year the time will be limited to three days—May 22, 23 and 24. Pasadena has been chosen again. The place is at 325 Glenarm Street, at the corner of Euclid.

The success of any exhibit depends upon the members of the organization which sponsors it. We are again depending upon the loyalty and co-operation of our membership in exhibiting and in urging the attendance of their friends.

Do exhibit! The first impulse is to say that others have plants which are so much better. But turn a deaf ear to that small voice and exhibit, anyhow, even though it be but one plant. If each member should exhibit but a single plant, the array would be imposing.

Our membership continues its steady growth. Card No. 1075 was recently mailed out. We are honored in having the Governor of California, James Rolph, Jr., one of our members.

The prize list will not be as extensive as it was last year. The Society, itself, is providing no prizes but any cash prizes or awards donated to the Society will be presented. It is felt that we should not assume the financial obligation involved and that the quality of the show will not be impaired because of this fact.

Entry forms and rules are being mailed to those within a reasonable distance of the place of exhibit.

Let's put our shoulder to the wheel and push for a successful show!

THE CACTUS BOOK
By
Dr. A. D. Houghton
145 pages with 18 illustrations, cloth binding, 5x7½ inches. Price $2.25
Send check payable to the
Cactus & Succulent Society of America
1800 Marengo St. Los Angeles, California

By Mary Norwood Lawrence
Assistant Editor
376 N. Ave. 57, Los Angeles, Calif.

Several consignments of seeds in pulp, imported from European countries, have recently been found to be infested with living stages of the Mediterranean fruit fly, *Ceratitis capitata*.

In view of this fact, it became necessary to prohibit the importation into the continental United States from any foreign country, or from any insular possession of this country, of seeds in pulp. Regulation 3, of Quarantine No. 37, the Nursery, Stock, Plant, and Seed Quarantine, already has been amended.

It is suggested that, if you are an importer of seeds, you notify your shippers of this additional restriction.

Cactus growers of Corona, Calif., have become so numerous that an organization has been formed to be known as the Corona Cactus Club. Many fine stands of both cactus and succulents are to be found in the dooryards of its members, and the roster of its officers bespeaks an immediate affiliation with the national body represented by the Journal.

The officers are: President, Councilman D. H. Huckins; Vice-President, Mrs. G. E. Stanley; Secretary, Mrs. Warren Ashleigh; Treasurer, Miss Katherine Stewart.

A recent visit to Dr. Arthur Houghton found him in his lathhouse, gleeful over having grown Boston ferns from spores, which may, or may not, mean anything to a cactus man, but which to a horticulturist is one of the botanical miracles.

Mr. and Mrs. Edgar Baxter and G. A. Frick, whose names are familiar to Journal readers, recently made a 1,000-mile collecting trip to Baja California. News of the Cacti and Euphorbias of that part of Mexico will be found in future issues.

Notice a photograph in the April Journal of a tray of *Fenestraria rhopallophyllum* from E. O. Orpet's gardens in Santa Barbara. When so many growers fail with their "baby toes" Mr. Orpet is singularly successful. He plants them out, gives them good soil and drainage, much California sunshine, and plenty of water—but the toes must not lie against the wet earth. Gravel and small stones lie snugly around the base of the plants which are raised a bit out of the soil. This particular batch was grown from seed and blossomed constantly during the past summer.

Mr. Charles A. Hewitt, chief chemist at the Laboratory of the Leffingwell Rancho, made the photograph.

In this connection, and since the publication of Mrs. Ysabel Wright's article on seedlings and their fascination, we hear a lot about older men in the business or avocation bemoaning their years. They like their plants that way—"but fruition is a long time coming and we will never live to see any considerable growth." O, me; O, my!

Just read over again Mrs. Wright's article, then cast your eyes on the photograph of Mr. Orpet's mature box of "baby toes," aged fifteen months!

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